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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,764	06/23/2003	Eddy Lambert	016782-0280	5710
22428	7590	10/25/2005	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			COLE, ELIZABETH M	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/600,764

Applicant(s)

LAMBERT ET AL.

Examiner

Elizabeth M. Cole

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 9-11, 21-32, 34, 36, 38, 41-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-20, 33, 35, 37, 39, 40 and 47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-8, 12-20, 33, 35, 37, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0628146 in view of Krupnik et al, U.S. Patent No. 6,298,538. EP '146 discloses a burner membrane for a radiant burner comprising a compressed web of stainless steel fibers. The web has a porosity of about 78-88 percent. The burner is perforated with a series of perforation. The fibers can be formed from shavings. The fibers can have a diameter of 35-150 microns. See example 1. EP '146 differs from the claimed invention because it does not disclose that the web is needled and does not disclose the claimed basis weight. With regard to the basis weight, since the basis weight is directly related to the strength, thickness and porosity of the final product, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the desired basis weight through the process of routine experimentation which produced a finished product having the desired properties. With regard to the needling, Krupnik teaches that needling nonwoven webs formed from metal fibers such as stainless steel fibers produces a stronger product. See abstract. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have needled the web of EP '146, in order to produce a stronger fabric.

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3. Claims 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP '146 in view of Krupnik as applied to claims above, and further in view of De Bruyne et al, U.S. Patent No. 5,088,919. EP '146 does not disclose coating the fibers with a coating that activates the oxidation of the burner fuel mixture. The fibers can be coated with a material which activates the oxidation of the burner fuel mixture. See col. 4, lines 35-49. It would have been obvious to one of ordinary skill in the art to have coated the fibers of EP '146 with the coating of De Bruyne et al, motivated by the expectation that this would enhance the heat resistance of the fibers.

4. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP '146 in view of Krupnik as applied to claims above, and further in view of WO 98/37029. EP '146 differs from the claimed invention because EP '146 discloses that the web is sintered. WO '029 teaches that sintering and needling and compressing are art recognized equivalents for forming a compacted metal web. See page 6, lines 10-12; page 10, lines 10-13; example. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have compacted the metal mesh of EP '146 by needling and compressing instead of sintering, motivated by the teaching of WO '029 that this was an alternative, recognized method of forming a compacted metal fiber web.

5. Applicant's arguments filed 8/1605 have been fully considered but they are not persuasive.

6. Applicant argues that the web of EP '146 is not needled and is not needled before compression and no evidence has been presented showing that the needled and

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compressed web would have the claimed porosity. With regard to the porosity, the web of EP '146 is disclosed as having a porosity of 78-88 percent. With regard to the needling, while EP '146 does not teach needling, Krupnik teaches needling metal fibers webs in order to form a stronger product. Therefore, it would have been obvious to have needled the web of EP '146 in order to form a stronger product, while still arriving at a product having the porosity of 78-88 percent. With regard to the compression step and the order of the process steps generally, the claims recite that the web is compressed to the particular porosity. The web of EP '146 already has this porosity. The method by which the porosity is achieved is not relevant to the determination of patentability absent a showing by Applicant that the process differences, (i.e., compressing the web), result in an unobvious difference. Applicant argues that needling the web of EP '146 will change the porosity of the EP '146 web. However, there is no evidence on the record to support this assertion. Secondly, even if it can be assumed that needling will densify the web and therefore decrease porosity, the degree of needling can be controlled and/or the starting material can be made to be more porous so that after needling the final product still has the density taught as desirable in EP '146.

7. Applicant argues that the limitation of "a needled fiber web which is compressed to a porosity of between 60% and 95%" can only be met by one reference. However, as set forth above, either the web of EP '146 after needling would still have the claimed porosity or it would have been obvious to either modify the degree or depth of needling

and/or the porosity of the starting material before needling in order to have the resulting material have a porosity with the desired porosity.

8. With regard to claim 1, Applicant argues that it recites a “membrane comprising at least one layer consisting of a needled fiber web” and that this must be interpreted as excluding a sintered needled web. However, it is noted that while the one layer is recited as “consisting of”, the membrane itself is limited by the transitional phrase “comprising” and therefore the claim employs open, not closed language. Second, even if the “consisting of” modifying the layer which makes up the membrane was interpreted as being closed, it precludes additional elements, but sintering is not an element but a process.

9. Applicant argues that there is nothing on the record to show that the basis weight is related to the strength, thickness and porosity of the final product. However, it is the examiner’s position that a material having a low basis weight would generally be strong than a material having a greater basis weight, all other elements in the web being equal, (i.e., compression, needling, density, etc). Therefore, one of ordinary skill in the art would have been motivated to have selected the desired basis weight through the process of routine experimentation in order to produce a web having the desired strength.

10. Applicant argues that there is no motivation to modify the reference by using the material as a burner membrane. In response to applicant’s argument that the web of Krupnik can not be used a burner membrane, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention

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and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Further, it is noted that EP '146 itself teaches a burner membrane and that Krupnik is relied on for the teaching of needling in order to impart additional strength to the fibrous material of EP '146.

11. Applicant argues that EP '146 teaches away from the claimed invention because EP '146 teaches sintering. However, the instant claims do not preclude sintering.

12. Applicant argues that the proposed modification, (needling the web), would change the principle of operation of EP '146. However, there is nothing on the record to show that needling the EP '146 web would change the principle of operation of EP '146. Needling would make the web of EP '146 stronger.

13. Applicant argues that since a reference has not been provided that teaches needling as a suitable, non-detrimental substitute to sintering in the burner membrane art it is not reasonable to presume that claim 1 is obvious. However, the rejection does not necessarily substitute needling for sintering but instead teaches that the web of EP '146 can be needling. The needling could be performed before or after sintering.

14. Applicant argues that there is no reasonable expectation of success for the combination because the references are silent in regard to a teaching that a compressed needled web has the same properties as a sintered web in regard to a web for a burner membrane. However, a person of ordinary skill in the art would have expected in view of the combined teachings of EP '146 and Krupnik that the metal fiber

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web of EP '146 could be needed with the expectation that this would increase the strength of the web. This expectation is found in the teaching of Krupnik.

15. Applicant's request for rejoinder of the method claims is noted. Issues related to rejoinder will be considered when a product claim is allowed.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

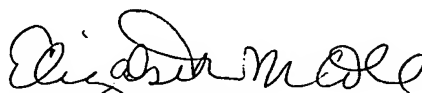
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should



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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

A handwritten signature in black ink, appearing to read "Elizabeth M. Cole".

Elizabeth M. Cole  
Primary Examiner  
Art Unit 1771

e.m.c